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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 09/594,169 | 06/15/2000 | David F. Skoll | 9-14774-4US | 8884 |
| 20988 | 7590 | 10/15/2003 | EXAMINER | |
| OGILVY RENAULT 1981 MCGILL COLLEGE AVENUE SUITE 1600 MONTREAL, QC H3A2Y3 CANADA | | | GURZO, PAUL M | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2881 | |

DATE MAILED: 10/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Ans

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 09/594,169 | Applicant(s) SKOLL, DAVID F. | |
| | Examiner Paul Gurzo | Art Unit 2881 | |

-- Th MAILING DATE of this communication app ars on th cover sheet with th corr spondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 14-16 and 21-23 is/are rejected.
- 7) ☒ Claim(s) 11-13, 17-20 and 24-31 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 June 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>0903</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 9-10, 14-16, and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aloni et al. (5,916,429).

Regarding claim 1, 429 teaches a method of recalibrating a micro-imaging system comprising the steps of positioning a field of view of the system over a pre-selected location (col. 2, line 43 - col. 3, line 51), focusing the system (col. 28, lines 40-45), capturing a reference calibration image (col. 10, lines 8-18), repositioning and refocusing, and capturing a recalibration image. They state that this automatic registration system is operative to correct for thermal drift (col. 11, lines 3-10). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to determine the thermal drift because some type of drift calculation must be determined for the system to correct for thermal drift.

Regarding claims 2-6, it is obvious that the repositioning can be triggered by whatever means is appropriate for the system. Further, because 429 teaches the use of a computer (61 in Fig. 1/2), it is obvious that the thermal drift is stored, and what the value is used for is intended use and is not given patentable weight. In addition, 429 teaches the use of a camera as well as a digital video signal (col. 28, lines 35-57).

Regarding claims 9 and 10, it is obvious that the recalibration time can be predetermined or variable (col. 2, line 43 - col. 3, line 51).

Regarding claim 14, 429 teaches a method of acquiring tile images of an integrated circuit (col. 7, lines 49-51) comprising the steps of positioning the imaging system over a pre-selected location (col. 2, line 43 - col. 3, line 51), and capturing and storing a tile image (col. 10, lines 8-18). They state that this automatic registration system is operative to correct for thermal drift (col. 11, lines 3-10), and it is obvious that if the thermal drift is corrected for that it is determined. Further, it is obvious that the acquisition is continuous, and the thermal drift can be determined by a trigger event.

Regarding claims 15 and 16, it is obvious that the trigger event can be the expiration of a predetermined or variable time interval (col. 2, line 43 - col. 3, line 51).

Regarding claim 21, 429 teaches a micro imaging system comprising a means for positioning the surface of interest in a field of view (col. 2, line 43 - col. 3, line 51), storing a position, focusing a field of view (col. 28, lines 40-45), and capturing an image of the surface (col. 10, lines 8-18). They state that this automatic registration system is operative to correct for thermal drift (col. 11, lines 3-10). It is obvious that if the thermal drift is corrected for that it is determined. Further, it is obvious that the thermal drift can be determined by a trigger event. They also teach the use of a computer (61) that acts to control the micro imaging system (col. 10, line 65 - col. 11, line 10 and Fig. 1/2).

Regarding claims 22-23, 429 teaches the use of a computer (61) as well as algorithms for defect detection (col. 2, lines 43-57). It is obvious that the defect detection can be determined by the thermal drift.

Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aloni et al. (5,916,429), and further in view of Meeks et al. (6,130,749).

The above-applied prior art does not explicitly state the use of applying a transform, but 749 teaches such an application, as well as a Fourier transform (col. 19, line 60 - col. 20, line 18). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use transforms because this will lead to increased use of frequency values to determine the distribution of the images of the reference surface.

Allowable Subject Matter

Claims 11-13, 17-20, 24-31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The closest prior art of record teaches the use of performing a focusing, but they are silent to the claimed coarse focus search and fine focus search centered around the best coarse focus search. They are silent to the use of an algorithm for returning to the calibration location of detection of the trigger event and for determining a next action dependent on the extent of the thermal drift with respect to at least one threshold. They are also silent to the claimed doubling and halving of the recalibration time interval.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Gurzo whose telephone number is (703) 306-0532. The examiner can normally be reached on M-Thurs. 7:30 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Lee can be reached on (703) 308-4116. The fax phone numbers for the

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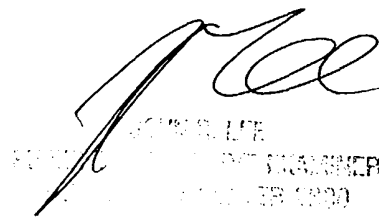
Art Unit: 2881

organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

PMG

September 30, 2003



Handwritten signature: *[Signature]*
Official stamp: **COMM. LTR**
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